

REMARKS

Claims 1-20 are pending in the present application. Claim 1 has been amended by reciting “5/2 to 4/3” in place of “10/1 to 1/2” concerning the weight ratio of carbon black to silica. Claim 1 has also been amended to recite “and the driving durability of the tire are”. The above amendments to claim 1 find basis, for instance, in Examples 7-10 and especially Examples 7 and 9, in Table II on page 16 of the specification. In particular, excellent bonding test results and durability (i.e. actual durability test on a vehicle (see page 14, line 34 to page 15, line 10 of the specification)) can be achieved when the weight ratio of the carbon black (i.e. Asahi # 60)/silica (i.e. Nipsil AQ) is 50/20 (i.e. 5/2) to 40/30 (i.e., 4/3). The amendments to the claims do not introduce any new matter.

Claims 1-20 were rejected under 35 USC 103(a) as being unpatentable over US Patent 6,672,349 to Glintz in view of US Patent 4,214,058 to Imamura and US Patent 5,328,949 to Sandstrom. The cited references fail to render obvious the present invention.

As recited in claim 1 as amended and as is evidenced from the results that are shown in Table II, the essence of the present invention resides in the use of the component (B) (i) cobalt acetyl acetonate $\text{Co}(\text{acac})_3$ in an amount of 0.1 to 5 parts by weight based upon 100 parts by weight of the diene-based rubber, and component B (ii), i.e. as a reinforcing filler, the carbon black and the silica in a weight ratio of 5/2 to 4/3, together with the silane coupling agent.

As a result, the bondability of the ring-shaped metal shell and the rubbery elastic members forming the run flat member of the run flat tire wheel assemble can be improved and the running durability, especially the durability can be remarkably improved, as shown in Table II of the present application. For instance, please see the results of Examples 1-4 in Table I and the results of Examples 7-10 in Table II, and especially Examples 7 and 9.

These are completely absent from the cited references.

Glintz suggests a vehicle wheel having a run flat tire construction comprising a run flat support member formed of a ring-shaped metal shell and a rubber elastic member as pointed out

by the examiner. However, as mentioned above, Glintz fails to even remotely suggest the use of cobalt acetyl acetonate Co (acac)₃ together with the carbon black and the silica in the specified weight ratios in the rubbery elastic member.

Imamura et al. fail to overcome the above discussed deficiencies of Glintz with respect to rendering obvious the present invention. Imamura et al. suggest a vulcanizable rubber composition containing, natural rubber (80), polyisoprene (20), carbon black (50), cobalt (II) acetylacetonate (0.3). Please see Tables 1 and 2 thereof. Imamura et al. further mention that silica and other conventional compounding agents can be added thereto (see column 4, lines 1-12).

However, Imamura et al. also fail to even remotely suggest the use of cobalt acetyl acetonate Co (acac)₃ together with the carbon black and the silica in the specified weight ratios in the rubbery elastic member.

Sandstrom et al fail to overcome the above discussed deficiencies of Glintz with respect to rendering obvious the present invention. Sandstrom et al. suggest a rubber composition comprising an elastomer, silica, optionally carbon black and a silica coupler that comprises dithiodipropionic acid. However, Sandstrom et al also fail to even remotely suggest the use of cobalt acetyl acetonate Co (acac)₃ together with the carbon black and the silica in the specified weight ratios in the rubbery elastic member.

Concerning obviousness, *Graham V. John Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) outlines the approach that must be taken when determining whether an invention is obvious. In *Graham*, the Court stated that a patent may not be obtained if the subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art, but emphasized that nonobviousness must be determined in the light of inquiry, not quality. Approached in this light, §103 permits, when followed realistically, a more practical test of patentability. In accordance with *Graham*, four inquiries must be made in determining whether an invention is obvious:

- (1) The scope and content of the prior art are to be determined.

- (2) The difference between the prior art and the claims at issue are to be ascertained.
- (3) The level of ordinary skill in the pertinent are resolved.
- (4) Evaluating evidence of secondary considerations. Also see *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007).

In conjunction with interpreting 35 U.S.C. §103 under *Graham*, the initial burden is on the Examiner to provide some apparent reason or suggestion of the desirability of doing what the inventor did, i.e. the Examiner must establish a *prima facie* case of obviousness. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention, or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

In addition, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. Also please see MPEP 2143.03. However, as discussed above, the cited references fail to teach all of the recitations in the present claims as now presented. In particular, none of the references disclose or even remotely suggest the use of cobalt acetyl acetate Co (acac)₃ together with the carbon black and the silica in the specified weight ratios in the rubbery elastic member.

Furthermore, the cited art lacks the necessary direction or incentive to those or ordinary skill in the art to render the rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 185 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d.

1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185, under Order No. 21713-00028-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

Electronic Signature: /Burton A. Amernick/
Burton A. Amernick

Registration No.: 24,852
CONNOLLY BOVE LODGE & HUTZ LLP
1875 Eye Street, N.W., Suite 1100
Washington, DC 20006
(202) 331-7111
(Fax) 202-293-6229
Attorney for Applicant